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DOI:

[10.1016/j.paed.2013.04.004](https://doi.org/10.1016/j.paed.2013.04.004)

Document Version

Peer reviewed version

Citation for published version (Harvard):

Handley, L, Adams, D, Simkiss, D & Oliver, C 2013, 'Self-injurious, aggressive and destructive behaviour in young children with a moderate to profound intellectual disability', *Paediatrics and Child Health*, vol. 23, no. 7, pp. 322-324. <https://doi.org/10.1016/j.paed.2013.04.004>

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Please use this reference when citing this work:

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Acknowledgements

The authors wish to thank the charity Cerebra and the National Institute for Health Research for their contribution to the research undertaken at the University of Birmingham.

Self-injurious, aggressive and destructive behaviour in young children with a moderate to profound intellectual disability.

Introduction

Self-injurious, aggressive and destructive behaviours shown by children with moderate to profound intellectual disability (ID) can pose a significant challenge to families and clinical services. These are behaviours which have the potential to cause harm to either the child themselves or others around them, or to damage the environment.

These behaviours are related to compromised physical and psychological well being in the children who show them, as well as parental stress, overuse of medication, higher service costs and a greater risk of out of area placement.

There is now a well-established literature on understanding, assessing and intervening effectively for self-injurious, aggressive and destructive behaviour in children with moderate to profound ID. This article provides an overview of the most important research findings and the implications for practice.

Prevalence and persistence

Self-injurious behaviour is reported in around 10-15% of children with moderate to profound ID at any one time. Aggressive behaviour and destructive behaviour are reported in around 30-40%. These behaviours often persist; studies have reported that around 80% of children continue to self-injure over a 20-year period.

These behaviours are also more common in children with Autism Spectrum Disorder, those who display high levels of hyperactivity and impulsive behaviour or repetitive and restricted/ritualistic behaviours, and children with certain genetic syndromes such as Cri du Chat, Smith-Magenis and Cornelia de Lange syndromes.

Causes of self-injurious, aggressive and destructive behaviour

a) Physical causes

There is growing evidence that self-injurious behaviour can be caused by pain that may arise from health problems. Self-injury may temporarily block or 'gate' the nociceptor signals involved in perceiving chronic pain. Aggressive and destructive behaviours can also be associated with pain however. One possible explanation is that pain increases the undesirability of typically occurring environmental events. This in turn increases environmentally associated behaviours (see below). For self-injurious behaviour, sensory stimulation may also be a cause e.g. eye poking to elicit the perceived sensation of light.

b) Social and environmental causes

Once a child begins to show self-injurious, aggressive or destructive behaviour, other people's responses may increase or maintain the behaviour by providing unintended rewards. For example, when behaviour occurs in the absence of adult attention, the natural response of a caregiver is to provide physical or verbal contact. This rewarding attention will increase the chances of behaviour recurring in the same circumstances. Another example is when the behaviour occurs after a child is asked to do something they do not wish to do. Responding to the behaviour often requires the task or demand to be removed temporarily, providing the child with relief from a negative experience.

Assessment

Before beginning any form of intervention, assessment of cause is essential.

a) Assessment of pain

Assessing the presence of pain in children who have limited or no expressive communication is difficult. It is important to be aware of health problems which may be more common in specific neurodevelopmental disorders, e.g. the high prevalence of gastroesophageal reflux in Cornelia de Lange. Similarly, presence of behavioural signs of pain should lead to further investigation. A number of instruments now exist for the assessment of pain behaviours, including the FLACC (Face, Legs, Activity, Cry and Consolability) and Non-Communicating Children's Pain Checklist, evaluating vocal, facial and postural cues, such as whimpering or grimacing.

b) Assessment of environmental causes

Functional analysis is a technique by which environmental causes of behaviour are assessed, usually through a combination of interview and structured observation. During observations, the environment may be manipulated systematically and the frequency of behaviour compared across conditions to highlight the most likely environmental causes (for example, low levels of attention or high levels of unwanted demands).

There is a wide range of possible environmental triggers. For example in children with Autism Spectrum Disorder, a common trigger may be disruption to routine or an aversive sensory event. Understanding likely precipitants for different children will guide assessment and intervention.

Although functional analysis is not widely available in clinical practice functional assessment interviews, such as the Questions About Behavioral Function, can provide a useful indication of potential environmental causes.

c) Other important considerations

Self-injurious, aggressive and destructive behaviours are often the result of a complex interplay of factors with both physical and environmental factors potentially involved. For example, a child may begin to show self-injurious behaviour in response to physical pain but through repeated experience of demands being removed following the behaviour, may then learn it leads to their removal. In this case, treating the physical cause alone might not be sufficient to reduce the behaviour.

It is also important to note that the frequency or form of behaviours may vary across different environments, or in the presence of different adults, where the history of associations may be different.

Interventions

a) Promoting other behaviours

Environmentally associated behaviours may be thought of as communicating a particular need, such as the need for attention, or to escape an aversive situation. There is good evidence that in this case Functional Communication Training, the systematic teaching of

behaviours that communicate the same need, such as signs, or gestures, can be effective. Through continued pairing of the new communication response with the desired consequence this alternative tool becomes associated with the environmental conditions which originally evoked the behaviour.

b) Environmental interventions

Adjusting or altering the environment can reduce behaviour associated with environmental causes. For example, reducing aversive demands and tasks through graduated instruction and breaks can decrease behaviour to escape the tasks. Similarly, increasing predictability by having clear routines and giving warnings and countdowns to transitions can be effective. Providing appropriate stimulation via toys and activities can also help to reduce stimulatory self-injury.

c) Interventions based on restraint or physical alterations

Whilst restraints or protective devices (e.g. arm splints for head hitting, gloves, helmets) can be used to prevent harm due to severe self-injury, these should only be used if: 1) all less invasive forms of intervention are demonstrably unsuccessful, 2) there is a real possibility of immediate or accumulative physical injury, 3) they offer the least restrictive alternative of available strategies, 4) they are one part of a programme designed to ultimately reduce the use of the restraint or protective device and that immediately addresses other identified causes of self-injury, 5) their potentially rewarding properties are evaluated regularly, 6) their use is recorded and subject to regular, systematic and objective behavioural and medical review and 7) they are in the child's best interests. Only restraints recommended by a physiotherapist and occupational therapist should be used.

d) Psychopharmacological interventions

In some cases self-injury, aggressive and destructive behaviour may be partially or entirely managed using pharmacological agents. Antipsychotic medications (such as risperidone or clozapine) or antidepressants (such as fluoxetine and fluvoxamine) are often prescribed for this purpose. A review of recent evidence for pharmacological treatment suggests that whilst a small number of trials have shown positive effects for

risperidone, in most other cases evidence is inconclusive. The published research is typically limited by small samples and the absence of appropriate measures and/or a control group. Side effects, e.g. weight gain in the case of risperidone, are reported. Demonstrably effective alternative treatment options should be explored prior to considering medication.

Online and other resources

There are a number of useful formal and informal resources available. The Common Assessment Framework provides a useful structured assessment framework, which can be applied to children displaying these behaviours. Several online resources are informative for both parents and professionals, including the Challenging Behaviour Foundation (www.challengingbehaviour.org.uk) for more practical advice and support, and Research Autism (www.researchautism.net), for up to date research on the effectiveness of various interventions. The websites of syndrome support groups often contain useful information reviewed by a scientific and clinical advisory group.

Conclusions

There are a number of potential causes of self-injurious, aggressive and destructive behaviour, both physical and environmental, and the literature highlights various approaches to management. A standardised structured assessment and intervention pathway is important, leading from pain assessment through to referrals to other professional services (such as clinical psychology or behaviour therapy). Support for families is also critical given the association between these behaviours and stress and coping.

Practice points:

- Early identification and treatment of self-injurious, aggressive and destructive behaviour is important
- Genetic, physical and environmental factors often interact to cause behaviours
- Causes should be systematically assessed prior to intervention
- Assessment of pain and health should precede behavioural management
- Support for parents is a key part of management

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